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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,069	09/16/2003	Sung-Tae Lee	084017.22223	2045

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EXAMINER

TYLER, CHERYL JACKSON

ART UNIT	PAPER NUMBER
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3744

DATE MAILED: 09/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/663,069

Applicant(s)

LEE, SUNG-TAE

Examiner

Cheryl J. Tyler

Art Unit

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Korea on 11/6/2002. It is noted, however, that applicant has not filed a certified copy of the Korean application as required by 35 U.S.C. 119(b).

Drawings

2. The drawings are objected to because there are two instances of element 624 illustrated in Figure 6. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

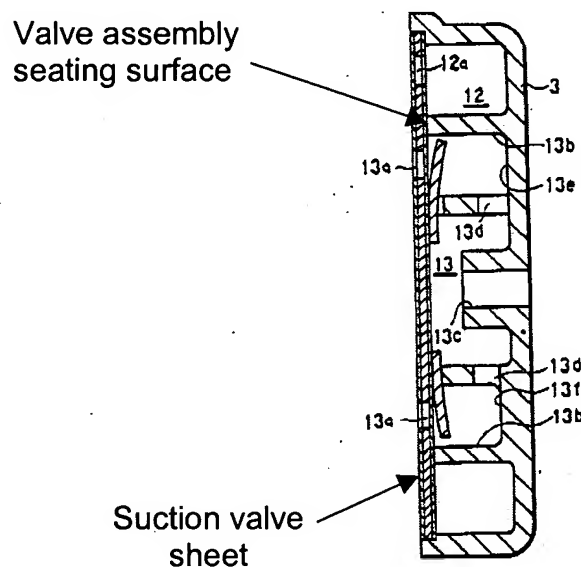
3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al (4,930,995). Suzuki et al. teach a cylinder block 1 having a cylinder 1a in which a piston 14 reciprocates; a rear housing 3 (corresponding to the claimed cylinder head) connected to the cylinder block, the rear housing defining an inlet hole 12 and being divided by a partition (unnumbered, but clearly illustrated in Figure 2c) into a first (13) and a second discharge chamber (generally described as element 13b and clearly illustrated in Figure 2c) that serve as an outlet path; a valve assembly (unnumbered, but clearly illustrated in Figure 2c) formed between the cylinder block and the cylinder head, the valve assembly controlling refrigerant outlet flow and inlet flow to and from the cylinder. Suzuki et al. further teach a passage 13d (corresponding to the claimed at least one connecting hole) that connects the first and second discharge chambers. As illustrated in Figures 2b and 2c, the partition is cylindrical and the space inside being defined as the first discharge chamber, and the space outside being defined as the second discharge chamber; the first discharge chamber having a valve assembly seating surface (see accompanying illustration) and the partition is provided with an inlet path therein formed without connection to the first discharge chamber. Suzuki et al. teach a valve assembly having a valve plate having an inlet port 12a (corresponding to

the claimed suction port) for connecting the inlet hole and the cylinder in fluid communication; a exit port 13c (corresponding to the claimed discharge port) for connecting the cylinder and the first discharge chamber in fluid communication; a suction valve sheet (unnumbered but illustrated in the accompanying illustration) having a suction valve for opening and closing the inlet port 12a; a discharge valve sheet having a discharge valve for opening and closing the discharge port.



5. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Kramer et al. (5,860,800). Kramer et al. teach a cylinder block (unnumbered, but clearly illustrated in Figure 1) having a cylinder 1 in which a piston 2 reciprocates; a cylinder head 33,29 connected to the cylinder block, the cylinder head defining a suction connection 71 (corresponding to the claimed inlet hole) and being divided by a plate 76 (corresponding to the claimed partition) into a first and a second discharge chamber 10,

17 that serve as an outlet path; a valve assembly 32, 4 formed between the cylinder block and the cylinder head, the valve assembly controlling refrigerant outlet flow and inlet flow to and from the cylinder. The plate 76 has at least one passage opening 77 (corresponding to the claimed at least one connecting hole) to connect the first and second discharge chambers.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (mentioned previously) in view of Ishizuka (4,480,965). Suzuki et al. teach most of the limitations of the claims. They do not, however, explicitly teach the use of a gasket between the discharge valve sheet and the valve assembly seating surface nor a stopper portion of the discharge chamber formed at the same or lower height as the valve assembly seating surface. Ishizuka teaches a gasket 38 "rigidly held between the valve plates 14 and their associated cylinder heads 12 so as to provide fluid tight sealing between the low pressure chambers 34 and adjacent high pressure chambers 36" (column 3, lines 14-17). Ishizuka further illustrates a stopper portion of the discharge chamber formed at the same height as the valve assembly seating surface (where the stopper portion is the lower surface of partition 32a in Figure 1). It would

have been obvious to one of ordinary skill in the art at the time the invention was made to use a gasket and discharge chamber stopper portion, as taught by Ishizuka, in the Suzuki et al. invention, in order to advantageously seal the suction and discharge chambers for optimal compressor performance, to prevent refrigerant leakage which would have impeded the compressor's operation, and to simplify the compressor's assembly by minimizing the number of parts.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


- Yoon (5,577,901) teaches a valve assemblage that does not utilize a retaining plate for the discharge valve.
- Nakamura et al. (4,392,788) teach that it is old and well known to include a suction port on the cylinder head.
- Fogotti (WO 99/53200) teach a discharge arrangement for a hermetic compressor that includes first and second discharge chambers 12, 13 with a partition therebetween.

Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheryl J. Tyler whose telephone number is 571-272-4834. The examiner can normally be reached on Monday-Thursday, 5:30 - 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl J. Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Cheryl J. Tyler
SPE
Art Unit 3744